MEW and Moffett Field Vapor Intrusion
Briefing for Jared Blumenfield
June 14, 2012

Key Messages:

- To date, we have **removed over 5 billion gallons of contaminated groundwater and 100,000 pounds of contaminants, primarily the chemical trichloroethene or TCE** (over 90 extraction wells pump 500 gallons per minute to 11 treatment systems).

- The science is evolving and we now know that there is the potential for Site contaminants (such as TCE) to migrate from the shallow soils and groundwater into overlying buildings (the **vapor intrusion pathway**).

- Since 2003, EPA and the responsible parties collected over **3,500 air samples at over 40 residences and 120 commercial buildings** to investigate the vapor intrusion pathway. If we find vapor intrusion into indoor air exceeding EPA's indoor air cleanup levels, we take action to lower those levels.

- Implemented **vapor intrusion control measures in 20 commercial buildings, 1 residence, and all new residential and commercial buildings**. Sampling of all buildings will be completed this year and we will work with the parties to develop a long-term monitoring strategy

- EPA's holds the responsible parties accountable for the investigation and cleanup. We work closely with the Navy, NASA, and MEW Companies and oversee and approve the work conducted. To date, the responsible parties have **spent over $160MM** and **reduced TCE contamination by over 75%**.

- However, there is still more work to be done, EPA is evaluating alternative sustainable technologies to clean up the groundwater faster and more effectively. It will still take **decades to clean up the groundwater**. It is important to know that the **contaminated groundwater in the area is not used as a source of drinking water** or other household uses.

Background

- The MEW Site, includes three NPL sites (Fairchild, Intel and Raytheon, along with NAS Moffett Field, are large, complex Superfund sites in Mountain View and Moffett Field, which means they represent some of the most hazardous waste sites in the nation. EPA's highest priority is to ensure protection of human health and the environment.

- When EPA first discovered these sites in the mid-1980s, we took immediate action to contain and remove the sources of contamination in the soil and groundwater as that posed the highest risk to human health.

- Because high concentrations of TCE still remain in the shallow groundwater (5 to 20 feet below the ground), there is the potential for TCE contaminated vapors to migrate upwards through the soils and enter into overlying buildings (**the vapor intrusion pathway**).

- The TCE groundwater plume is extensive (over 1.5 miles long and ½ mile wide).

- EPA Region 9 has taken a leading role in investigating the vapor intrusion pathway at the MEW and Moffett Field sites and other nearby sites in the South Bay Area.

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- In 2010, EPA selected a vapor intrusion remedy, which includes air sampling in buildings overlying the shallow groundwater contamination to determine the appropriate response action and to ensure that residents and workers are protected from potential vapor intrusion into buildings overlying the shallow groundwater contamination.

- In 2011, EPA updated the **TCE Toxicity Assessment**. TCE is a known human carcinogen. EPA's indoor air cleanup levels at the MEW Site is **1 microgram per cubic meter (ug/m3) for residential** and **5 ug/m3 for commercial/non-residential.** These levels are **health protective for both short-term and long-term exposure** (both cancer and non-cancer effects)

Specific Results Information

Building 10 (NASA Facility Maintenance Workers): Recently in Feb 2012 EPA found indoor air results at levels 10 times higher than EPA's actions levels (max concentration of 50 micrograms per cubic meter indoors and 1,100 ug/m3 in the utility tunnel leading to the building). NASA took interim actions to ventilate the building while the Navy works on a long-term solution. The Navy collected confirmation air samples on May 25, 2012.

Residential Area: The Residential Areas are generally west of Whisman Road and the eastern portion of the Wescoat Village residences on Moffett Field. **EPA sampled air inside and outside of over 40 residences in the Residential Vapor Intrusion Study Area** to assess whether low levels of TCE in shallow groundwater beneath the residences are potentially impacting indoor air quality through the vapor intrusion pathway. EPA is referring to this study area as the Residential Vapor Intrusion Study Area defined as the area within the estimated 5 parts per billion TCE groundwater plume boundary. (See attached Vapor Intrusion Study Area - MEW Area - South of U.S. Highway 101 - updated Dec 2011
Vapor Intrusion Study Area - Moffett Field Area - North of U.S. Highway 101 - updated Dec 2011

In 2004, one residence with an earthen cellar (Residence 4) showed elevated levels of TCE in the cellar and living space that exceeded EPA's action level (nearly 4 times higher than EPA's indoor air action level for long-term exposure of 1 microgram per cubic meter of TCE) and required mitigation control measures to lower those levels. Two unoccupied residences on Moffett Field had elevated levels of TCE in indoor air and the new residential development (Wescoat Village) was constructed with sub-slab ventilation systems to mitigate the potential for vapor intrusion.